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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/636,466

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Woon-Yong Park

8876

7590

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Hae-Chan Park
McGuire Woods
1750 Tysons Blvd
Suite 1800
McLean, VA 22102-4215

EXAMINER

NADAV, ORI

ART UNIT

PAPER NUMBER

2811

DATE MAILED: 10/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/636,466

Applicant(s)

PARK, WOON-YONG

Examiner

ori nadav

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claimed limitations of a first line and a third repair line cross the signal lines of two neighboring blocks, as recited in claim 7, are unclear as to the structural relationship between the first line and the claimed device.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (6,380,992).

Lee teaches in figure 7 and related text a thin film transistor array substrate for a liquid crystal display, comprising:

an insulating substrate 99, 101 (figure 4b) including a display area and a peripheral area surrounding the display area, the peripheral area including a first peripheral region arranged along a first edge of the display area and a second peripheral region arranged along a second edge of the display area (figure 8);

a plurality of signal lines (the first five signal layers of layers 120 and 121, wherein layers 121 are considered part of the signal lines) formed on the insulating substrate and divided into a plurality of blocks (the first two signal lines are considered as a first block and the next three signal lines are considered as a second block), each block including a predetermined number of signal lines;

a plurality of first repair lines 220a, 220b (the upper part of lines 220a, 220b) formed in the first peripheral region, each crossing the signal lines of one or more of the plurality of blocks;

a second repair line 220a, 220b (the first lower part of lines 220a, 220b) formed in the first peripheral region and crossing all of the plurality of signal lines;

a plurality of first connection members (the vertical connections connecting the upper part of lines 220a, 220b to the lower part of lines 220a, 220b) each crossing the first repair line and the second repair line.

Lee does not teach in the embodiment of figure 7 a plurality of third repair lines formed in the second peripheral region and connected to the first repair lines corresponding thereto, wherein each third repair line crosses the signal lines crossed by the corresponding first repair line, and

a fourth repair line formed in the second peripheral region and crossing all of the plurality of signal lines.

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Lee teaches in figure 1 the entire device wherein a first peripheral region of the substrate is identical to a second peripheral region of the substrate.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use repair lines in the first peripheral region of the substrate identical to the repair lines located in the second peripheral region of the substrate, such that a plurality of third repair lines formed in the second peripheral region and connected to the first repair lines corresponding thereto, wherein each third repair line crosses the signal lines crossed by the corresponding first repair line, and

a fourth repair line formed in the second peripheral region and crossing all of the plurality of signal lines in Lee's device, in order to provide better repair capabilities to the device. Note that since the first and second repair lines are connected to the signal lines, then the third and fourth repair lines are also connected indirectly to the corresponding first and second repair lines, as claimed.

Regarding claims 2, 4 and 9, the device of Lee includes a plurality of first and second interconnection lines (signal lines) interconnecting the first repair lines and the third repair lines, wherein the first and second interconnection lines are formed on a printed circuit board.

Regarding claim 3, Lee does not explicitly state connecting each of the first repair lines to an IC for driving the signal lines. It would have been obvious to a person

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of ordinary skill in the art at the time the invention was made to connect the first repair lines to an IC for driving the signal lines in Lee's device in order to operate the device in its intended use. Note that the repair lines are linked to the first interconnection lines.

Regarding claim 5, Lee teaches in figure 7 a fifth repair line 210a, 21b (the second lower part of lines 220a, 220b) formed in the first peripheral region and crossing the first connection members and all of the plurality of signal lines; and a sixth repair line (the second lower part of lines 220a, 220b) formed in the second peripheral region and crossing the first connection members and all of the plurality of signal lines.

Regarding claim 6, Lee teaches in figure 7 that the signal lines of each block are connected to an integrated circuit.

Regarding claims 7 and 8, the device of Lee includes a first line and a third repair line cross the signal lines of two neighboring blocks, wherein the first and second connection members are provided in each block.

Regarding claim 10, Lee does not teach using the device with a signal amplifying circuit. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the device with a signal amplifying circuit in

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the first and second interconnection lines in order to use the device in an application which requires a signal amplifying circuit.

Response to Arguments

Applicant argues that Lee does not teach repair lines crossing only five signal lines in one block and not all of the signal lines in other blocks in the display area.

Claim 1 recites a plurality of signal lines being divided into a plurality of blocks, wherein each block including a predetermined number of signal lines. The claimed limitations do not provide any restriction on how the blocks are formed. Therefore, the first two signal lines are considered as a first block and the next three signal lines are considered as a second block. The first five signal lines, which are defined as being located in two blocks, are crossed by first and second repair lines, as claimed.

The broad recitation of the claim does not require that one repair line cross all the signal lines in the display area.

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Papers related to this application may be submitted to Technology center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the TC 2800 Fax center located in Crystal Plaza 4, room 4-C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 2811 Fax Center number is (703) 308-7722 and 308-7724. The Group 2811 Fax Center is to be used only for papers related to Group 2811 applications.

Any inquiry concerning this communication or any earlier communication from the Examiner should be directed to *Examiner Nadav* whose telephone number is (571) 272-1660. The Examiner is in the Office generally between the hours of 7 AM to 4 PM (Eastern Standard Time) Monday through Friday.

Any inquiry of a general nature or relating to the status of this application should be directed to the **Technology Center Receptionists** whose telephone number is **308-0956**



O.N.
10/25/04

ORI NADAV
PRIMARY EXAMINER
TECHNOLOGY CENTER 2800